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ABSTRACT

In spring 1984, a study was conducted at the University of Maryland's University College to evaluate the effectiveness of computer studies faculty. The student ratings of these faculty members were compared with the ratings given to mathematics faculty and to all other faculty teaching that term. On all three evaluation criteria (i.e., encourages help, grades fairly, and stimulates interest), instructors in computer studies were rated lower than the other two faculty groups. To address the problems revealed by the study, several workshops were organized and administrative procedures were instituted to improve the teaching-learning process in computer studies. A coordinator was assigned to review course syllabi for mandatory features; convene regular faculty meetings to discuss curricular issues; serve as an advisor for textbook selection; and act as a resource for faculty members. Workshops were organized on presentation skills, syllabus construction, and individualized learning styles and their impact on teaching. Information on the analysis of the evaluative data and a teacher evaluation form are appended. (AYC)

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THE CHALLENGES OF IMPROVING THE TEACHING-LEARNING PROCESS IN COMPUTER STUDIES

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Abstract

As colleges and universities seek to respond to the volume of student demands for courses in such fields as business and computer studies, they will continue to rely heavily on part-time faculty to teach these courses. The participation of part-time faculty in higher education is attractive, since these individuals frequently command the needed expertise and are willing and anxious to teach at night or on weekends. Yet in many cases part-time instructors need assistance to further develop the skills that are associated with effective teaching.

In this paper, a case study is developed centering on computer studies faculty at The University of Maryland's University College. The high proportion of new faculty in computer studies is documented. Also presented are comparisions of student evaluations among computer studies faculty, math faculty, and all other faculty teaching at University College. What emerges through these comparative figures is the fact that computer studies faculty receive lower student ratings than do all other faculty on variables associated with effective teaching.

Based on these data, the paper explores three specific areas of weakness in the teaching behaviors of computer studies faculty and proposes solutions.

The Enhancement of the Teaching-Learning Process in the Non-Traditional Curricula

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Part-time instructors constitute a significant proportion of the contemporary faculty in higher education. According to the National Center for Education Statistics, by 1980, thirty-two percent of all faculty were part-timers (NCES, 1980). And according to a recent review of the literature by Judith Gappa, part-time faculty today carry about fifteen percent of the total college-level teaching load (1984).

The impact of part-time faculty on higher education is particularly visible in several of the concentrations or majors where adult student interest is soaring, specifically in accounting, business management and computer studies. Professionals from these fields have a high level of expertise which they are willing to share with students. They also serve as realistic role models for students studying in these fields. In addition, these part-time faculty members are able to help students identify viable career options. The benefits of having professionals as faculty members are tremendous.

Happily for institutions of higher education a great number of professionals in the business, accounting and computer studies fields are flattered by the invitation to teach, and they join in the instructional process for the intrinsic rewards (Leslie, Kellams, and Gunne, 1982). Teaching part-time, moreover, allows

them to fulfill a sometimes life-long desire without significantly interrupting their ususal work schedule.

While the enthusiasm and expertise are great assets to higher education, these part-time instructors are frequently novices in the classroom. The challenge to the institutions then, is to provide opportunities for the development of teaching skills among these faculty. thereby enhancing the instructional process in these non-traditional fields.

The following example is presented to illustrate the critical need for increasing levels of structured efforts to maximize support for new faculty in these fields. We have purposely selected an extreme case to highlight the importance we attach to this issue.

Problem Exemplar: Part-Time Faculty in Computer Studies

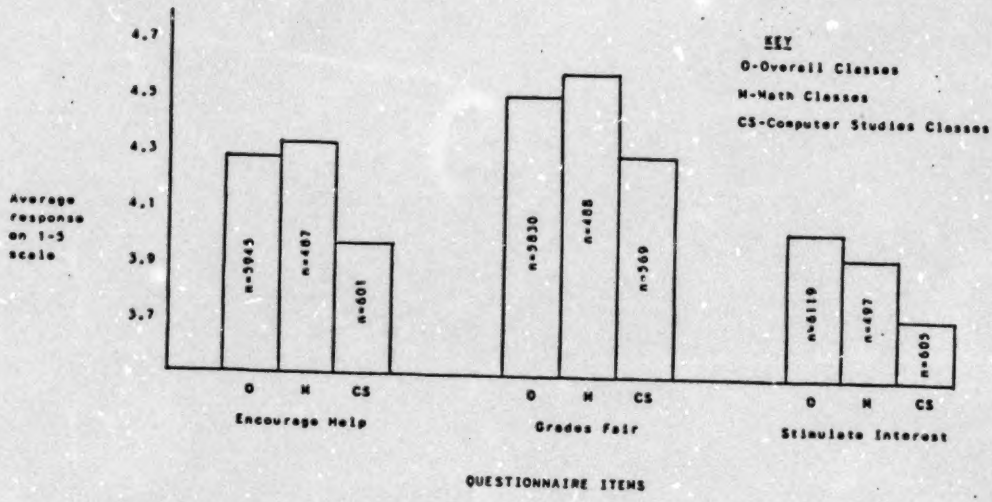
In the spring of 1984, 18 percent of faculty in computer studies at The University of Maryland's University College* were teaching there for the first time, as compared with about 14 percent of instructors in all other fields. Many of these new instructors in computer studies display certain weaknesses in the basics of teaching.

In seeking to evaluate the effectiveness of computer studies faculty, we have compared their student ratings with the ratings

*University College, one of the five major campuses of The University of Maryland, seeks to provide educational opportunities for persons who cannot or choose not to attend college full-time. Curricular and course schedules are designed to accomdate the needs of busy adults.

by students taking math courses and with the student ratings of all other faculty teaching during that term. The math faculty ratings provide a useful comparison because these courses seem equally technical and difficult to master. The variables chosen for comparison are widely accepted as components of effective teaching. As reflected below (see figure 1) student evaluations of instructors in computer studies are lower on the three variables chosen. (For further information on the data analysis see appendix A.)

Figure 1



The variable "encourages help" relates to an individual's orientation to teaching. The aspects of teaching which emphasize helping people--eloquently expressed by Eble (1977) and others--are not always manifest in our discussions with computer studies faculty. We find that many are unprepared for the realities of individual differences among the students in their classes. Their propensity is to offer a learning unit once, and either

students understand it or they do not. They are unlikely to approach the same learning tasks in numerous ways to accommodate the diversity of their students.

The second variable measured pertains to grading policies, and it underlines another problem with many new faculty in technical areas. Precise to the extreme about the substance of what they are teaching, these instructors are too often imprecise about their grading policies. They fail to realize the importance the students place on knowing the various components of their grades, the relative weighting of the components, and the exact configuration of grading scales.

Thirdly, we see that computer studies faculty receive lower ratings than do math faculty and all other faculty on the variable of "stimulating interest." In fact, we find that computer studies faculty are often not creative presenters or communicators. They frequently lack an appreciation for the dramatic aspects of the craft, and for the important impact that flair and enthusiasm can have on learning. Trained in a highly technical fashion, these faculty may have a difficult time communicating with people in an engaging, well-paced and systematic fashion.

So it seems part of the reason that many students in computer studies experience some frustration is that many enroll in courses which are marketed as leading to high-paying jobs or careers only to learn that their instructors are not always prepared to deal with them as unique individuals. In addition, they sit in classes where instructors who command the knowledge and

expertise to help them in very real ways are perhaps weak in communicative skills. The are sometimes subjected to poor presentations of subjects they thought were of great interest. They find their frustration further diminished by unclear grading policies, and inadequate feedback from faculty. Thus the challenge of enhancing the teaching-learning process mentioned above is a very real one and meeting this challenge requires several coordinated approaches.

Proposed Solutions

To address the kinds of issues described above, we have organized several workshops and instituted some administrative procedures to improve the teaching-learning process in computer studies. In terms of administrative procedures, we are utilizing a computer studies instructor as "coordinator" of the various courses in the computer studies program. His responsibilities include reviewing course syllabi at the beginning of each term to check for standard mandatory features; convening regular meetings of computer studies faculty at least once a semester to discuss curricular issues; serving as an advisor for selection and review of computer studies textbooks; and acting as a resource for faculty members who have course or student related questions. We surmise that part of the reason for the higher evaluations of our math faculty is the fact that there has been a math coordinator for seven years, and the math faculty has evolved into a cohesive group of people resembling a conventional faculty in some

respects. They have standardized curricula and final examinations, h-ld regular meetings, and communicate frequently with one another.

In terms of workshops focused on the specific teaching issues adumbrated above, we have set up, or are organizing the following kinds of programs:

Workshop on Presentation Skills: This workshop was led by a professor in the University of Maryland's Speech and Communication division (who also teaches at University College), and enabled our faculty to view their own teaching through video-taped vignettes. The workshop leader then critiqued these vignettes focusing on technical features of speech and presentation.

Workshop on Syllabus Construction: Using word-processors, this workshop was held in January, 1984, and 17 faculty members (9 from computer studies) learned how to construct their syllabi on word-processors. One of the items we stressed in the construction of a syllabus was the importance of clear grading policies, including the scales utilized if any are in operation.

Workshop on Individualized Learning Styles And Their Impact on Teaching: We are scheduling a workshop to help faculty comprehend the numerous ways through which students approach learning.

What we will try to accomplish in this workshop is the transmission to faculty of the knowledge that students can learn about computers in various methods, and that some will succeed more quickly with a particular method, say a lecture, while others will respond more effectively to problem-solving instructional methods, or other methods through which students are active learners. Out of this we hope to help faculty develop new instructional strategies.

Classroom Visitation: We have selected a small group of computer studies faculty whose classes will be visited several times during the semester. The faculty have expressed an eagerness to have us come and get more feedback on their teaching.

While the results of our various faculty development activities will not be immediately visible, we sense that we are on the right track. Clearly, the popularity of computer studies will continue to expand into the forseeable future, and the training of part-time faculty to teach eager students will be a compelling item on the agenda of colleges and universities.

References

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Appendix A

Data Analysis

The student evaluation data was obtained from University College records of the student evaluation form (see appendix B) administered each term in all University College classes and compiled by the Office of Faculty Development.

The reported averages are the weighted means for all classes, all math classes and all computer studies classes under the course labels of CMSC (computer systems management), CMIS (computer and information science), and CAPP (computer applications) from the summer 1984 evaluations. These were used because they were the most recent figures available.

The slight difference in the number of responses to the different questions in the same fields are most likely the result of students not responding to all items on each questionniare.

APPENDIX B

UNIVERSITY OF MARYLAND UNIVERSITY COLLEGE
CONFIDENTIAL RATING OF INSTRUCTION BY STUDENTS

University College conducts a number of activities and programs designed to foster excellence in teaching. This questionnaire is part of that effort. It gives you a chance to express anonymously your views of this course and the way it has been taught. We do pay attention to these ratings and to your comments!

DIRECTIONS:

1. Your instructor should appoint a student to distribute, collect, and mail these forms to University College.

2. Please fill in the course information requested below. (Your instructor will tell you what to write in the CODE section.) We cannot process your form unless you fill in ALL the information about this course.

3. Then provide thoughtful answers to the evaluation questions below. Circle your responses. If you change your mind, put an x through your first response and then circle your new choice.

4. Give your completed form directly to the student appointed to return the forms to University College.

COURSE INFORMATION:

Dept:_____Course:_____Sect._____Code:_____ Instructor_____
Date_____

SPECIFIC QUESTIONS ABOUT THIS COURSE:

1=Never/Rarely 3=Occasionally 5=Almost always
2=Seldom/Little 4=Often/Usually NA=Not applicable

1. What the instructor was trying to accomplish with this course was clear to me.	1	2	3	4	5	NA
2. What was actually taught was in agreement with the course objectives.	1	2	3	4	5	NA
3. The instructor presented the material in a way that could be clearly understood.	1	2	3	4	5	NA
4. The instructor stimulated my interest in the subject (OR motivated me to learn).	1	2	3	4	5	NA
5. The instructor used class time well.	1	2	3	4	5	NA
6. The instructor seemed receptive to new ideas and others' viewpoints.	1	2	3	4	5	NA
7. The instructor encouraged students to seek help when necessary.	1	2	3	4	5	NA
8. The course added to my knowledge or skill (OR encouraged critical thinking).	1	2	3	4	5	NA
9. The instructor encouraged relevant student involvement in class activities.	1	2	3	4	5	NA
10. The course content was appropriately difficult for the course level (upper- or lower-level).	1	2	3	4	5	NA

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11. Grades were assigned fairly and impartially. 1 2 3 4 5 NA

OVERALL RATING OF INSTRUCTOR AND COURSE:

1=Very poor 3=Average 5=Excellent
2=Poor 4=Good NA=Not applicable (I have not had other instructors or courses)

12. My overall rating of this INSTRUCTOR compared to other college instructors is: 1 2 3 4 5 NA

13. My overall rating of the COURSE compared to other college courses is: 1 2 3 4 5 NA

OPTIONAL ADDITIONAL QUESTIONS:

1=Lowest 3=Middle 5=Highest

14. Your instructor may wish to ask for more information about this course. 1 2 3 4 5 NA

15. Use these items for your responses. 1 2 3 4 5 NA

YOUR COMMENTS ARE WELCOME. On the reverse of this sheet, please list the two or three MOST POSITIVE things about this course and the two or three LEAST POSITIVE things. If you have specific suggestions for your instructor, please list them as well. We will return these comments to your instructor after the grades for the course have been submitted.

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